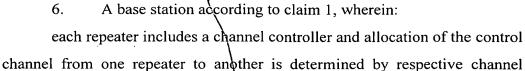
## WHAT IS CLAIMED IS:

1. A base station for a mobile radio system, including: a plurality of repeaters that provide respective radio channels; a station controller connected to each repeater; and a radio antenna system connected to the repeaters;

wherein the repeaters provide a control channel and a plurality of traffic channels for mobile users, with allocation of the control channel being varied among the traffic channels.

- 2. A base station according to claim 1, wherein: the control channel is changed periodically from one repeater to another in a round robin process.
- 3. A base station according to claim 1, wherein: the control channel is changed periodically or non-periodically among the repeaters in a random process.
- 4. A base station according to claim 1, wherein:
  each repeater normally provides a traffic channel and the control channel
  is changed intermittently among the repeaters according to a predetermined
  process skipping those repeaters at which the traffic channel is busy.
- 5. A base station according to claim 1, wherein: allocation of the control channel among the repeaters is determined by the station controller.



channel from one repeater to another is determined by respective channel

controllers.

7. A method of providing radio channels in a mobile communication system, including:

allocating a control channel and a plurality of traffic channels for mobile radios in the system; and

intermittently re-allocating the control channel as a traffic channel and one of the other traffic channels as a new control channel.

8. A method according to claim 7, further including: re-allocating the control channel among the traffic channels on a round

robin basis.

9. A method according to claim 7, further including: re-allocating the control channel among the traffic channels on a random basis.

10. A method according to claim 7, further including:

selecting a channel for re-allocation of the control channel by determining a free traffic channel in a channel control system.

11. A method of re-allocating a control channel in a radio base station, including:

selecting an existing traffic channel to become a new control channel according to a predetermined process;

denying new requests by mobile radios over a durrent control channel for access to traffic channels;

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completing existing requests by mobile radios over the current control channel for access to traffic channels;

allocating the selected traffic channel as the new control channel and the current control channel as a traffic channel; and

receiving new requests by mobile radios over the new control channel for access to traffic channels.

12. A method according to claim 11, wherein:

the predetermined process includes a round robin poll of traffic channels to locate a channel not currently busy with traffic.

- 13. A method according to claim 12, wherein: the poll takes place at periodic or random intervals.
- 14. A radio network including a base station that implements a method according to claim 7.
- 15. A radio network including a base station that implements a method according to claim 8.
- 16. A radio network including a base station that implements a method according to claim 9.
- 17. A radio network including a base station that implements a method according to claim 10.
- 18. A radio network including a base station that implements a method according to claim 11.

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- 19. A radio network including a base station that implements a method according to claim 12.
- 20. A radio network including a base station that implements a method according to claim 13.